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10/754,877	01/09/2004	Kenneth N. Han	4775-5	8690

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SHERIDAN ROSS PC  
1560 BROADWAY  
SUITE 1200  
DENVER, CO 80202

EXAMINER
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MCNELIS, KATHLEEN A

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 09/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/754,877

Applicant(s)

HAN, KENNETH N.

Examiner

Kathleen A. McNelis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-50 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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### **Claim Status**

Claims 1-50 remain for examination, wherein claims 1, 11, 18, 27, 34, 44, 45 and 46 are amended.

### **Status of Previous Rejections**

#### ***Claim Rejections - 35 USC § 103***

The previous rejections of claims 1-8, 11-24, 27-41 and 44-50 under 35 U.S.C. § 103(a) based on U.S. Pat. No. 5,542,957 are maintained. The previous rejections of claims 9-10, 25-26 and 42-43 under 35 U.S.C. § 103(a) based on U.S. Pat. No. 5,542,957 are withdrawn in view of applicants' amendment of the claims and arguments.

The previous rejections of claims 1-8, 11-24, 27-41 and 44-50 under 35 U.S.C. § 103(a) based on U.S. Pat. No. 5,328,669 are maintained. The previous rejections of claims 9-10, 25-26 and 42-43 under 35 U.S.C. § 103(a) based on U.S. Pat. No. 5,328,669 are withdrawn in view of applicants' amendment of the claims and arguments.

### **Double Patenting Rejections**

The previous rejections of claims 1-8, 11-24, 27-41 and 44-50 based on U.S. Pat. Nos. 5,542,957 are maintained. The previous rejections of claims 9-10, 25-26 and 42-43 under 35 U.S.C. § 103(a) based on U.S. Pat. No. 5,542,957 are withdrawn in view of applicants' amendment of the claims and arguments.

The previous rejections of claims 1-8, 11-24, 27-41 and 44-50 based on U.S. Pat. No. 5,328,669 are maintained. The previous rejections of claims 9-10,

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25-26 and 42-43 under 35 U.S.C. § 103(a) based on U.S. Pat. No. 5,328,669 are withdrawn in view of applicants' amendment of the claims and arguments.

***Allowable Subject Matter***

Claims 9, 10, 25, 26, 42 and 43 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 1st paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

***DETAILED ACTION***

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-50 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contain subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The amendment to independent claims 1, 18, and 34 (and therefore all claims that depend therefrom) of "...in a reaction zone of less than approximately 20 psig" is new matter, which was not previously disclosed. The statement on page 8 of the specification "Rather, the process may be performed at ambient or near ambient pressures" is not sufficient support for a specific value (20 psig) that is obviously above ambient pressure.

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***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-8, 11-24, 27-41 and 44-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Han et al. '957 for the reasons cited in the office action dated 3/15/2005. The previous rejection is maintained.

In addition, the amendments to instant claims 1, 18, and 34 disclose that the pressure in the reaction zone is less than approximately 20 psig. Han et al. '957 discloses that the typical pressure employed will be between 20 and 400 psig (col. 4 lines 10-15). The claimed range in amended claims 1, 18 and 34 of less than approximately 20 psig is close to the range disclosed by Han et al. of between 20 and 400 psig. It has been well settled that where claimed ranges and prior art ranges do not overlap but lie close enough that one of ordinary skill in the art would expect the same properties to result, a prima facie case of

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obviousness exists (M.P.E.P § 2144.05). In the instant case, similar results seem to be obtained from any pressure value over atmospheric, and absent any evidence to the contrary, operating at pressure ranges as low as 20 psig in the process of Han et al. '957 would have been an obvious modification to one of ordinary skill in the art at the time the invention was made.

Claims 1-8, 11-24, 27-41 and 44-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Han et al. (U.S. Pat. No. 5,328,669 for the reasons cited in the office action dated 3/15/2005. The previous rejection is maintained.

In addition, the amendments to instant claims 1, 18, and 34 disclose that the pressure in the reaction zone is less than approximately 20 psig. Han et al. '669 discloses that the typical pressure employed will be between 30 and 1300 psig (col. 3 lines 20-30). Over the range between 30 to 1300 psig (net 1,270 psig), a change of 10 psig represents an increment of less than 1 % (10 psig/1270 psig). The range as claimed in amended claims 1, 18 and 34 of less than approximately 20 psig is therefore close to the range disclosed by Han et al. of between 30 and 1,300 psig, since a 10 psig difference represents an increment of less than 1 % over the entire range. It has been well settled that where claimed ranges and prior art ranges do not overlap but lie close enough that one of ordinary skill in the art would expect the same properties to result, a prima facie case of obviousness exists (M.P.E.P § 2144.05). In the instant case, similar results seem to be obtained from any pressure value over atmospheric, and absent any evidence to the contrary, operating at pressure ranges as low as

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20 psig in the process of Han et al. '957 would have been a modification obvious to one of ordinary skill in the art at the time the invention was made.

Claims 1-4, 6-8, 11-12, 14-17, and 30-33 are rejected under 35 U.S.C.

103(a) as being unpatentable over Olia et al. (U.S. Pat. Pub. No.

US2003/0129112 A1) in view of Han et al. (U.S. Pat No. 5,308,381).

With respect to claims 1-4 and 18-21, Olia et al. discloses a method of recovering a precious metal from a source material (p. 1, ¶s 0009-0010). The source material is contacted with an oxidant (p. 1, ¶ 0008) and a halogen salt (p. 1, ¶ 0013) in an aqueous solution (p. 1, ¶s 0015-0017) from which at least one precious metal (gold) is recovered (p. 2, ¶ 0040) as in instant claims 1 and 18. The reactions take place in a reaction zone of less than approximately 20 psig (atmospheric pressure, p. 4, ¶0098), as in instant claims 1 & 18. The halogen salt is preferably NaCl (p. 1, ¶ 0013) as in instant claims 4 and 21.

Olia et al. does not specifically teach the addition of an ammonium salt to the solution, as in instant claims 1 and 18, or that the salt should be selected from the group consisting of ammonium sulfate, ammonium oxide, ammonium bromide, ammonium chloride, ammonium fluoride, ammonium acetate, ammonium carbonate, ammonium chromate, ammonium nitrate, ammonium oxalate, ammonium phosphate and mixtures and combinations thereof as in instant claims 2 and 19, or that the concentration of the ammonium salt is approximately 0.01 gram-moles per liter to approximately 2 gram-moles per liter of the solution as in instant claims 3 and 20. Han et al. '381 teaches that using ammonia for the extraction of gold is effective not only for conventional sources

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of gold, but also for refractory ores (col. 2, lines 50-55). The advantages of using ammonia are that it is relatively inexpensive, non-toxic and easily regenerated (col. 2, lines 37-43). Han et al. discloses that a preferred ammonium salt is ammonium iodide (col. 3, lines 14-22), as in instant claims 2 and 19. Han et al. teaches that the concentration is typically 0.1 to 2.0 gram-moles/liter (col. 3, lines 15-22), which overlaps with the claimed approximately 2 gram-moles/liter in instant claims 3 and 20. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use ammonium iodide in the solution of Oila et al., since Han et al. teaches that it is effective for the extraction of gold and is non-toxic, low cost and easily regenerated. Further, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a concentration of ammonium iodide of 2 gram-moles/liter in the solution of Oila et al., since Han et al. teaches that the entire range of between 0.1 to 2.0 gram-moles/liter is beneficial for gold recovery.

With respect to claims 6 and 23, the solution as disclosed by Olia et al. in view of Han et al. contains a mixture of ammonium salt provided by an ammonium containing compound selected from a group including of ammonium iodide, ammonium carbonate, and ammonium phosphate, and the halogen salt is provided to the solution by a halogen containing compound selected from a group including ammonium iodide (Han et al. col. 3, lines 14-22).

With respect to claims 7-8 and 24, the oxidant used in the method of Olia et al. in view of Han et al. is gaseous, and is selected from a group including ozone (Olia et al., p. 3 ¶s 0064-0068).

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With respect to claims 11-12 and 27-28, in the method disclosed by Olia et al. in view of Han et al., the reaction zone is at approximately ambient pressure as in instant claims 11 and 27 (Olia et al., p. 4, ¶0098), and the solution is heated to a temperature less than approximately 150 °C (ambient temperature, Olia et al., p. 4, ¶0098) as in instant claims 12 and 28.

With respect to instant claims 14-16 and 30-32, Olia et al. in view of Han et al. discloses a solution which is acidic, therefore the pH is inherently less than approximately 10, as in instant claims 14 and 30, as well as in the range of approximately 0.5 to approximately 8 as in instant claims 15 and 31 and comprises an acid as in instant claims 16 and 32 (Olia et al., pg 8, claims 15 and 17).

With respect to instant claims 17 and 33, Olia et al. in view of Han et al. discloses that at least one precious metal that can be recovered from this process is gold (Olia et al., p. 2, ¶ 0040)

Claims 5, 13, 22, 29, 34-41 and 44-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olia et al. (U.S. Pat. Pub. No. US2003/0129112 A1) in view of Han et al. (U.S. Pat No. 5,308,381) and in further view of Young et al (U.S. Pat. No. 6,471,743).

With respect to claims 5 and 22, Olia et al. in view of Han et al. is silent with respect to the concentration of halogen salt, and therefore does not teach that the concentration of the halogen salt is approximately 0.01 gram-mole per liter of solution to approximately 2 gram-moles per liter. Young et al. discloses a method for leaching ores, to recover valuable minerals, including gold, wherein

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an alkali metal halide is used in the leach solution (col. 2, lines 1-20). In an example for leaching gold from ore, Young et al. used a 50 g/liter potassium bromide solution (col. 22, lines 14-44). Since the molecular weight of potassium bromide is 119 g/g-mole, this solution is approximately 0.4 gram-moles per liter, which is within the range of between 0.01 to 2 gram-moles per liter in instant claims 5 and 22. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a solution of approximately 0.4 gram-moles per liter of KBr as taught by Young et al. in the solution of Olia et al. in view of Han et al., since Young et al. reports a 100% leaching of gold with this solution composition (col. 22, Table 10).

With respect to claims 13 and 29, the method disclosed by Olia et al. in view of Han et al. does not disclose heating the solution to a temperature in the range of approximately 50 degrees Celsius to approximately 100 degrees Celsius. Young teaches that the temperature of the solution can be adjusted to between 80 °C and 120 °C, preferably within the range from 90 °C and 110 °C to control precipitation from the solution (col. 4, lines 52-58). The preferred range from 90 °C and 110 °C overlaps with the claimed range of from 50 °C and 100 °C. It would have been obvious to one of ordinary skill in the art at the time the invention was made to heat the solution in the method of Olia et al. in view of Han et al. to a temperature from between 80 °C to 100°C, since Young et al. teaches that the entire range between 80 °C and 120 °C is beneficial to control precipitation from solution.

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With respect to claims 34-37, Olia et al. discloses a method of recovering a precious metal from a source material (p. 1, ¶s 0009-0010). The source material is charged into a reaction zone with at least one halogen salt (p. 1, ¶ 0013), water (p. 1, ¶s 0015-0017), at least one acid (page 8, claim 17) and a source material containing at least one precious metal (page 8, claim 3). The reactions take place in a reaction zone of less than approximately 20 psig (atmospheric pressure, p. 4, ¶0098). Olia et al. does not specifically teach the addition of an ammonium salt to the solution (instant claims 34), the selection of this salt (instant claims 35 and 37), or its concentration in the solution (instant claims 38 and 38).

Han et al. '381 teaches a that using ammonia for the extraction of gold is effective not only for conventional sources of gold, but also for refractory ores (col. 2, lines 50-55). The advantages of using ammonia are that it is relatively inexpensive, non-toxic and easily regenerated (col. 2, lines 37-43). Han et al. discloses that a preferred ammonium salt is ammonium iodide (col. 3, lines 14-22), as in instant claims 35 and 37. Han et al. teaches that the concentration is typically 0.1 to 2.0 gram-moles/liter (col. 3, lines 15-22), which overlaps with the claimed approximately 2 gram-moles/liter in instant claims 36 and 38. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use an ammonium-halide salt, selected from a group including ammonium iodide in the solution of Olia et al., since Han et al. teaches that it is effective for the extraction of gold and is non-toxic, low cost and easily regenerated. Further, it would have been obvious to one of ordinary skill in the art

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at the time the invention was made to use a concentration of ammonium salts of 2 gram-moles/liter in the solution of Oila et al., since Han et al. teaches that the entire range of between 0.1 to 2.0 gram-moles/liter is beneficial for gold recovery.

Oila et al. in view of Han et al. does not disclose heating the reaction zone to approximately 50 °C and 100 °C as in instant claim 34. Young teaches that the temperature of the solution can be adjusted to between 80 °C and 120 °C, preferably within the range from 90 °C and 110 °C to control precipitation from the solution (col. 4, lines 52-58). The preferred range from 90 °C and 110 °C overlaps with the claimed range of from 50 °C and 100 °C. It would have been obvious to one of ordinary skill in the art at the time the invention was made to heat the solution in the method of Oila et al. in view of Han et al. to a temperature from between 80 °C to 100°C, since Young et al. teaches that the entire range between 80 °C and 120 °C is beneficial to control precipitation from solution.

With respect to claim 39, the solution as disclosed by Oila et al. in view of Han et al. and in further view of Young et al. contains a mixture of ammonium salt provided by an ammonium containing compound selected from a group including of ammonium iodide, ammonium carbonate, and ammonium phosphate, and the halogen salt is provided to the solution by a halogen containing compound selected from a group including ammonium iodide (Han et al. col. 3, lines 14-22).

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With respect to claims 40-41, the oxidant used in the method of Olia et al. in view of Han et al. in further view of Young et al. is gaseous, and is selected from the group including ozone (Olia et al., p. 3 ¶s 0064-0068).

With respect to claim 44, in the method disclosed by Olia et al. in view of Han et al., and in further view of Young et al., the reaction zone is at approximately ambient pressure (Olia et al., p. 4, ¶0098)

With respect to claims 45 and 46, in the method disclosed by Olia et al. in view of Han et al., and in further view of Young et al., the reaction zone is at approximately ambient pressure (Young et al. col. 23 lines 54-65) and at a temperature between 80 °C and 120 °C, to control precipitation from the solution (Young et al, col. 4, lines 52-58) as in instant claims 45 and 46. The temperature range disclosed by Young et al. overlaps the claimed range of between 60 °C and 90 °C in instant claims 45 and 46. It would have been obvious to one of ordinary skill in the art at the time the invention was made to heat the solution in the method of Olia et al. in view of Han et al. and in further view of Young et al., to a temperature from between 80 °C to 90°C, since Young et al. teaches that the entire range between 80 °C and 120 °C is beneficial to control precipitation from solution. An oxidant other than gaseous oxygen provides oxidizing conditions (ozone, Olia, et al., p. 3 ¶0065), as in instant claim 46.

With respect to instant claims 47-49, Olia et al. in view of Han et al. and in further view of Young et al. discloses a solution which is acidic, therefore the pH is inherently less than approximately 10, as in instant claim 47, as well as in the range of approximately 0.5 to approximately 8 as in instant claim 48 and

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comprises an acid selected from a group including sulfuric acid (Olia et al., pg 8, claims 15, 17 and 18).

With respect to instant claim 50, Olia et al. in view of Han et al. in further view of Young et al., discloses that at least one precious metal that can be recovered from this process is gold (Olia et al., p. 2, ¶ 0040).

### ***Double Patenting***

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

Claims 1-8, 11-24, 27-41 and 44-50 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-16 of Han et al., U.S. Patent No. 5,542,957. Although the conflicting claims are not identical, they are not patentably distinct from each other for reasons cited in the prior office action.

In addition, the amendments to instant claims 1, 18, and 34 disclose that the pressure in the reaction zone is less than approximately 20 psig. Han et al. '957 discloses that the typical pressure employed will be between 20 and 400 psig (col. 4 lines 10-15). The claimed in amended claims 1, 18 and 34 of less than approximately 20 psig is close to the range disclosed by Han et al. of

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between 20 and 400 psig. It has been well settled that where claimed ranges and prior art ranges do not overlap but lie close enough that one of ordinary skill in the art would expect the same properties to result, a prima facie case of obviousness exists (M.P.E.P § 2144.05). In the instant case, similar results seem to be obtained from any pressure value over atmospheric, and absent any evidence to the contrary, operating at pressure ranges as low as 20 psig in the process of Han et al. '957 would have been a modification obvious to one of ordinary skill in the art at the time the invention was made.

Claims 1-8, 11-24, 27-41 and 44-50 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-22 of U.S. Patent No. 5,328,669. Although the conflicting claims are not identical, they are not patentably distinct from each other for reasons cited in the prior office action.

In addition, the amendments to instant claims 1, 18, and 34 disclose that the pressure in the reaction zone is less than approximately 20 psig. Han et al. '669 discloses that the typical pressure employed will be between 30 and 1300 psig (col. 11, lines 27-34). Over the range between 30 to 1300 psig (net 1,270 psig), a change of 10 psig represents an increment of less than 1 % (10 psig/1270 psig). The range as claimed in amended claims 1, 18 and 34 of less than approximately 20 psig is therefore close to the range disclosed by Han et al. of between 30 and 1,300 psig, since a 10 psig difference represents an increment of less than 1 % over the entire range. It has been well settled that where claimed ranges and prior art ranges do not overlap but lie close enough

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that one of ordinary skill in the art would expect the same properties to result, a prima facie case of obviousness exists (M.P.E.P § 2144.05). In the instant case, similar results seem to be obtained from any pressure value over atmospheric, and absent any evidence to the contrary, operating at pressure ranges as low as 20 psig in the process of Han et al. '957 would have been a modification obvious to one of ordinary skill in the art at the time the invention was made.

### **Response to Arguments**

Applicant's arguments with respect to the 103(a) rejections based on prior art have been considered but are not persuasive. The amendments to instant claims 1, 18, and 34 disclose that the pressure in the reaction zone is less than approximately 20 psig. Han et al. '957 discloses that the typical pressure employed will be between 20 and 400 psig (col. 4 lines 10-15), and Han et al. '669 discloses that the typical pressure employed will be between 30 and 1300 psig (col. 3 lines 20-30). The claimed range in amended claim 1 of less than approximately 20 psig is close to the range disclosed by Han et al. '957 of between 20 and 400 psig and of Han et al. '669 of between 30 and 1300 psig. It has been well settled that where claimed ranges and prior art ranges do not overlap but lie close enough that one of ordinary skill in the art would expect the same properties to result, a prima facie case of obviousness exists (M.P.E.P § 2144.05). In the instant case, similar results seem to be obtained from any pressure value over atmospheric, and absent any evidence to the contrary, operating at pressure ranges as low as 20 psig in the process of Han et al. '957

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or Han et al. '669 would have been a modification obvious to one of ordinary skill in the art at the time the invention was made.

Applicants arguments with respect to claims 11, 27, 44, 45 and 46 regarding operating at ambient pressure have been considered but are moot in view of new ground(s) of rejection.

Applicant's argument with regard to 9, 10, 25, 26, 42 and 43 regarding production of a gaseous oxidant from the mixing of two liquid reagents has been considered and is persuasive. These claims contain subject matter that distinguishes the invention over the prior art.

Applicant's arguments with respect to claims 8, 24, and 41 regarding a gaseous oxidant other than oxygen have been considered but are moot in view of new ground(s) of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

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calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kathleen A. McNelis whose telephone number is 571-272-3554. The examiner can normally be reached on M-F 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**ROY KING**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 1700**